

**MULTI-STEP DIGITAL SIGNATURE METHOD AND SYSTEM****Publication number:** WO9639765 (A1)**Publication date:** 1996-12-12**Inventor(s):** SUDIA FRANK W [US]; FREUND PETER C [US]; HUANG STUART T F [US] +**Applicant(s):** BANKERS TRUST CO [US]; SUDIA FRANK W [US]; FREUND PETER C [US]; HUANG STUART T F [US] +**Classification:****- international:** G06Q20/00; G09C1/00; H04L9/08; H04L9/32; G06F7/72; G06Q20/00; G09C1/00; H04L9/08; H04L9/32; G06F7/60; (IPC1-7): H04L9/30; H04L9/32**- European:** G06F21/00N5A2Q; G06F21/00N9C; G06Q20/00K1; H04L9/08S; H04L9/32; H04L9/32S3**Application number:** WO1996US05317 19960419**Priority number(s):** US19950462430 19950605**Also published as:**

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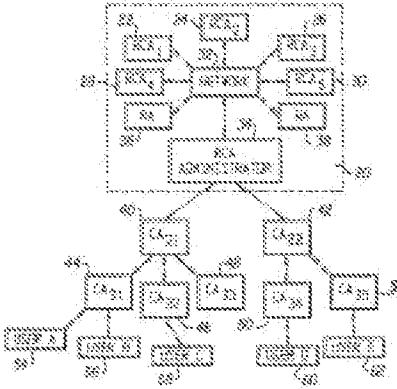
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**Abstract of WO 9639765 (A1)**

A multi-step signing system and method uses multiple signing devices (11, 13, 15, 17, 19) to affix a single signature which can be verified using a single public verification key. Each signing device possesses a share of the signature key and affixes a partial signature in response to authorization from a plurality of authorizing agents (23, 25, 27, 29, 31). In a serial embodiment, after a first partial signature has been affixed, a second signing device exponentiates the first partial signature. In a parallel embodiment, each signing device affixes a partial signature, and the plurality of partial signatures are multiplied together to form the final signature. Security of the system is enhanced by distributing capability to affix signatures among a plurality of signing devices and by distributing authority to affix a partial signature among a plurality of authorizing agents.



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